



14. (New) A semiconductor memory device comprising:

- a silicon substrate;
- a peripheral memory region delineated on said substrate, said peripheral memory region having at least one peripheral memory element formed thereon;
- a core memory region also delineated on said substrate, said core memory region having at least one set of dual gate core memory structures formed thereon, said dual gate core memory structures comprising a stacked layer arrangement of semiconductor and dielectric material defining respective sidewall portions; and
- an anti-reflective coating material serving a dual-purpose of being a sacrificial coating structure for lithographic patterning and as a sidewall spacer structure for protecting said stacked layer arrangement during etching operations.

15. (New) A semiconductor memory device, as recited in Claim 14, wherein: said anti-reflective coating material being selected from an anti-reflective coating material group consisting of silicon oxynitride (SiON), silicon nitride (Si_3N_4), and silicon germanium (SiGe), said material group having anti-reflective optical properties and being compatible with ion implantation and salicidation fabrication processes.

16. (New) A semiconductor memory device, as recited in Claim 15, wherein: said anti-reflective coating material being deposited in a thickness ranging from 300\AA to 1000\AA and, also being a pattern formation structure for said at least one peripheral memory element.

17. (New) A semiconductor memory device comprising:

- a silicon substrate;
- a peripheral memory region delineated on said substrate, said peripheral memory region having at least one peripheral memory element formed thereon;
- a core memory region also delineated on said substrate, said core memory

region having at least one set of dual gate core memory structures formed thereon, said dual gate core memory structures comprising a stacked layer arrangement of semiconductor and dielectric material defining respective sidewall portions; and

d. an anti-reflective coating material serving a dual-purpose of being a sacrificial coating structure for lithographic patterning and as a sidewall spacer structure for protecting said stacked layer arrangement during etching operations, wherein said anti-reflective coating material being deposited in a thickness ranging from 300Å to 1000Å and, also being a pattern formation structure for said at least one peripheral memory element.

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18. (New) A semiconductor memory device, as recited in Claim 17, wherein:

said anti-reflective coating material being selected from an anti-reflective coating material group consisting of silicon oxynitride (SiON), silicon nitride (Si₃N₄), and silicon germanium (SiGe), said material group having anti-reflective optical properties and being compatible with ion implantation and salicidation fabrication processes.

19. (New) A semiconductor memory device comprising:

a. a silicon substrate;

b. a peripheral memory region delineated on said substrate, said peripheral memory region having at least one peripheral memory element formed thereon;

c. a core memory region also delineated on said substrate, said core memory region having at least one set of dual gate core memory structures formed thereon, said dual gate core memory structures comprising a stacked layer arrangement of semiconductor and dielectric material defining respective sidewall portions; and

d. an anti-reflective coating material serving a dual-purpose of being a sacrificial coating structure for lithographic patterning and as a sidewall spacer structure for protecting said stacked layer arrangement during etching operations, wherein said anti-reflective coating material being selected from an anti-

reflective coating material group consisting of silicon oxynitride (SiON), silicon nitride (Si₃N₄), and silicon germanium (SiGe), said material group having anti-reflective optical properties and being compatible with ion implantation and salicidation fabrication processes.

20. (New) A semiconductor memory device, as recited in Claim 19, wherein said anti-reflective coating material being deposited in a thickness ranging from 300Å to 1000Å and, also being a pattern formation structure for said at least one peripheral memory element.

21. (New) A semiconductor memory device comprising:
a. a silicon substrate;
b. a peripheral memory region delineated on said substrate, said peripheral memory region having at least one peripheral memory element formed thereon;
c. a core memory region also delineated on said substrate, said core memory region having at least one set of dual gate core memory structures formed thereon, said dual gate core memory structures comprising a stacked layer arrangement of semiconductor and dielectric material defining respective sidewall portions; and
d. an anti-reflective coating material serving a dual-purpose of being a sacrificial coating structure for lithographic patterning and as a sidewall spacer structure for protecting said stacked layer arrangement during etching operations, wherein said anti-reflective coating material being selected from an anti-reflective coating material group consisting of silicon oxynitride (SiON), silicon nitride (Si₃N₄), and silicon germanium (SiGe), said material group having anti-reflective optical properties and being compatible with ion implantation and salicidation fabrication processes and, wherein said anti-reflective coating material being deposited in a thickness ranging from 300Å to 1000Å and, also being a pattern formation structure for said at least one peripheral memory element.